

भारतीय मानक

IS 10433 (Part 1) : 2023

Indian Standard

ऑयल हॉयड्रोलिक कॅप्लिंग के लिए मेल
स्टैंड टी बॉडी (स्टैंड रन) — विशिष्टि

भाग 1 गढ़ाई से निर्मित

(पहला पुनरीक्षण)

**Male Stud Tee Body (Stud Run) for
Oil Hydraulic Couplings —
Specification**

Part 1 Made from forgings

(First Revision)

ICS 23.100.40

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Price Group 5

FOREWORD

This Indian Standard (Part 1) (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Fluid Power Systems Sectional Committee had been approved by the Production and General Engineering Division Council.

This standard covers male stud tee bodies (stud run) made from forgings only. The tee bodies made from bar stocks are covered in IS 10433 (Part 2).

This standard was first published in 1983. The first revision has been taken up to keep pace with the latest technological developments and international practices. In this revision, following major changes have been made:

- a) Table 1 on dimensions has been revised; and
- b) Clause on surface protection has been revised.

The composition of the Committee, responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

MALE STUD TEE BODY (STUD RUN) FOR OIL HYDRAULIC COUPLING — SPECIFICATION

PART 1 MADE FROM FORGINGS

(*First Revision*)

1 SCOPE

This standard specifies the dimensions, material and other requirements for male stud tee bodies (stud run) made from forgings with parallel pipe threads for use in oil-hydraulic systems.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

3 DIMENSIONS

The dimensions of male stud tee bodies shall be as given in Table 1 and Fig.1.

4 MATERIAL

Male stud tee bodies shall be manufactured with steel of grade 15C8 (Class 1A) conforming to IS 1875 or any other steel as agreed to between the user/purchaser and the manufacturer.

5 SURFACE PROTECTION

Male stud tee bodies shall be zinc plated as per

IS 1367 (Part 11), unless otherwise agreed to between the user/purchaser and the manufacturer.

6 GENERAL REQUIREMENTS

6.1 These tee bodies are intended for assembly in accordance with Type B of IS 10480. For details not covered in this standard, reference shall be made to IS 8805.

6.2 Surface Roughness

All the machined surface male stud tee body shall have a surface roughness value of $R_a \leq 2.5$ micrometers (μm).

7 DESIGNATION

A male stud tee body of light series L, for outside diameter of tube 22 mm and conforming to this standard shall be designated as:

Stud run tee body L22 IS 10433 (Part 1)

8 BIS CERTIFICATION MARKING

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark

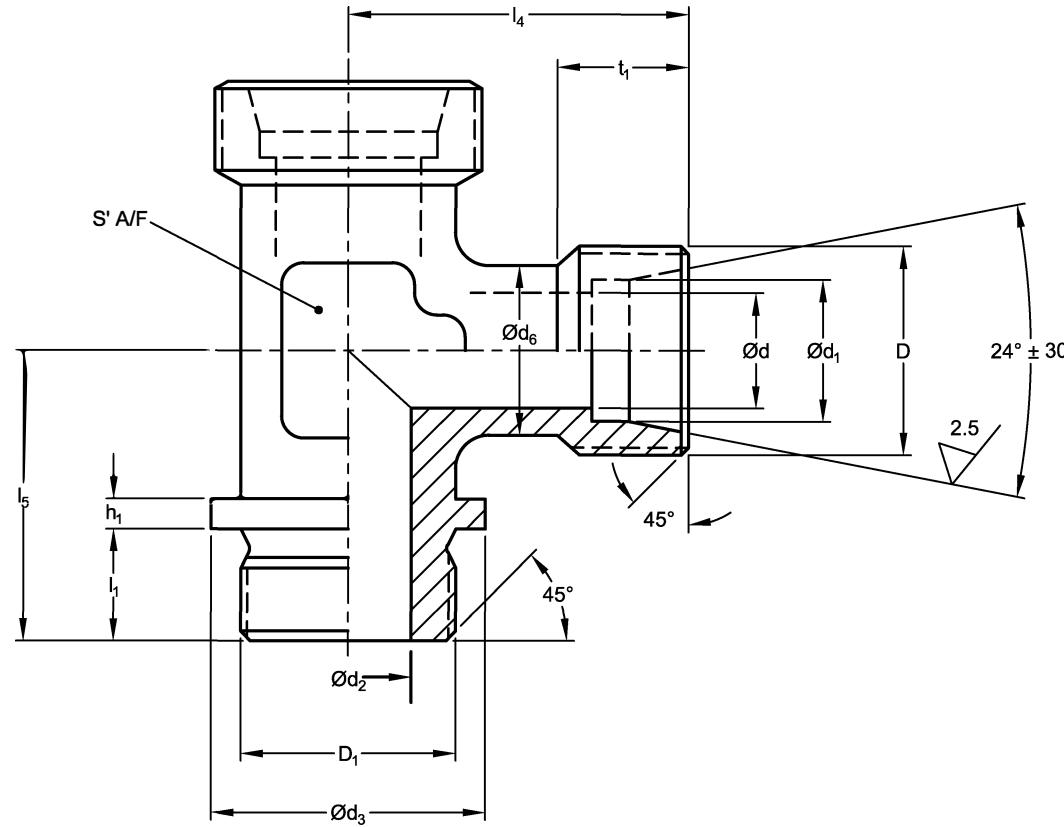


FIG. 1 DIMENSIONS OF MALE STUD TEE BODIES

Table 1 Dimensions for Male Stud Tee Body (Stud Run)

(Clause 3)

All dimensions in millimeters.

Sl No.	Series	Nominal Pressure MPa	Outside Diameter of Tube	D ¹⁾	D ²⁾	d B11	d ₁	d ₂	d ₃ - 0.4	d ₆	t ₁ ± 0.2	l ₁ ± 0.2	l ₄ ± 0.3	l ₅ ± 0.3	h ₁	S' A/F ³⁾
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
i) Light L	10	16	22	G $\frac{3}{4}$	M30 × 2.0	19	22	18	32	26	10	16	35	42	4	27
			28	G 1	M36 × 2.0	24	28	23	39	33	10	18	38	48	5	36
			35	G 1 $\frac{1}{4}$	M45 × 2.0	30	35	30	49	39	12	20	45	54	5	41
			42	G 1 $\frac{1}{2}$	M52 × 2.0	36	42	36	55	46	12	22	51	61	5	50

Table 1 (Concluded)

Sl No.	Series	Nominal Pressure	Outside Diameter of Tube	<i>D</i> ¹⁾	<i>D</i> ²⁾	<i>d</i>	<i>d</i> ₁	<i>d</i> ₂	<i>d</i> ₃	<i>d</i> ₆	<i>t</i> ₁	<i>l</i> ₁	<i>l</i> ₄	<i>l</i> ₅	<i>h</i> ₁	<i>S'</i> <i>A/F</i> ³⁾
						B11		- 0.4			± 0.2	± 0.2	± 0.3	± 0.3		
MPa																
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ii) Heavy S	40	20 25	20 G 1	G $\frac{3}{4}$	M30 × 2.0	16	20	16	32	26	12	16	37	42	4	27
				G 1	M36 × 2.0	20	25	20	39	33	14	18	42	48	5	36
25	25	30 38	G $\frac{1}{4}$ G $\frac{1}{4}$	G $\frac{1}{4}$	M42 × 2.0	25	30	25	49	39	16	20	49	54	5	41
				G $\frac{1}{4}$	M52 × 2.0	32	38	32	55	46	18	22	57	61	5	50

¹⁾ Threads shall conform to class A of IS 2643.²⁾ Threads shall conform to class 6g of IS 14962 (Part 2).³⁾ Tolerances shall be ${}^0_{-1}$ mm.

NOTE — Stud end details shown in the figure conforming to Type A of IS 8805. Type B may be used if required, in which case the designation shall be, for example: 'Stud run tee body L22 IS 10433 (Part 1) – B'.

ANNEX A
(Clause 2)
LIST OF REFERRED STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
IS 1367 (Part 11) : 2020/ ISO 4042 : 2018	Technical supply conditions for threaded steel fasteners: Part 11 Electroplated coating systems (<i>fourth revision</i>)	IS 8805 : 2002	General requirements for ferrule type couplings used in oil-hydraulic systems (<i>first revision</i>)
IS 1875 : 1992	Carbon steel billets, blooms, slabs and bars for forgings — Specification (<i>fifth revision</i>)	IS 10480 : 1983	Specifications for stud run tee coupling assemblies for oil-hydraulic systems
IS 2643 : 2005/ ISO 228 (Part 1) : 2000	Pipe threads where pressure-tight joints are not made on the threads — Dimensions, tolerances and designation (<i>third revision</i>)	IS 14962 (Part 2) : 2001/ ISO 965-2 :1998	ISO general purpose metric screw threads — Tolerances: Part 2 Limits of sizes for general purpose external and internal screw threads — Medium quality

ANNEX B
(Foreword)
COMMITTEE COMPOSITION

Fluid Power Systems Sectional Committee, PGD 36

<i>Organization</i>	<i>Representatives(s)</i>
L&T Construction Limited, Bengaluru	SHRI SHIVA SHANKAR (Chairperson)
Ace Designers Limited, Bengaluru	SHRI T. P. SRIDHAR
BEML Limited, Bengaluru	SHRI A. SUBRAMANYAM SHRI V. SEKAR (<i>Alternate I</i>) SHRI S. BASAVARAJU (<i>Alternate II</i>)
Bosch Rexroth Indian Limited, Ahmedabad	SHRI MUKESH DODIYA SHRI PRASHANT KATKAR (<i>Alternate</i>)
Central Institute of Tool Design, Hyderabad	SHRI SHUJAYAT KHAN
Central Manufacturing Technology Institute, Bengaluru	DR NAGAHANUMAIAH SHRI S. K. VERMA (<i>Alternate</i>)
CSIR - National Aerospace Laboratories, Bengaluru	SHRI THENNAVARAJAN S.
Denison Hydraulics India Limited, Patancheru, Hyderabad	SHRI V. G. SRIVIVAS SHRI S. RADHAKRISHNA (<i>Alternate</i>)
Duncan Engineering Limited, Pune	SHRI SHRIKANT RAO
Dynamitic Technologies Limited, Bengaluru	SHRI P.K. RAY CHAUDHURI SHRI VIVEK ANAND SUKUMARAN (<i>Alternate</i>)
Eastern Pneumatics Private Limited, Kolkata	SHRI SATYAJIT CHANGDURI SHRI JAYANTAA ROY (<i>Alternate</i>)
Eaton Technologies Private Limited, Pune	SHRI SHREEDHAR KETHARI SHRI B. A. N. MURTHY (<i>Alternate</i>)
Eimco Elecon (India) Limited, Vallabh Vidyanagar	SHRI RAVINDRA LUTHRA SHRI BHAVIN K. BHATT (<i>Alternate</i>)
EPE Process Filters and Accumulators Private Limited, Hyderabad	SHRI NARENDRA GAURI SHRI P. N. BHAGAWATI (<i>Alternate</i>)
Festo India Private Limited, Bengaluru	SHRI R. JOSHI SHRI P. SHAH (<i>Alternate</i>)
Fluid Power Society of India (FPSI), Bengaluru	DR PRASANNA KUMAR SHRI M. YOGANARSIMHA (<i>Alternate</i>)
Hindustan Aeronautics Limited, Bengaluru	SHRI K. N. B. PANICKER
HMT Limited, Bengaluru	SHRI N. S. VERMA
Hyd-Air Engineering Private Limited, Mumbai	SHRI V. RANE

<i>Organization</i>	<i>Representatives(s)</i>
Hyfit Engineers, Faridabad	SHRI H. L. BHUTANI SHRI DHEERAJ BHUTANI (<i>Alternate</i>)
Hyloc Hydrotechnic Private Limited, Belgaum	SHRI D. S. CHITNIS SHRI G. R. DESHPANDE (<i>Alternate</i>)
IPSS Sail, New Delhi	SHRI SANJAY KUMAR
Janatics India Private Limited, Bengaluru	SHRI G. C. NAGESWARAN
Kwality Precision Products Private Limited, Chennai	SHRI R. THIAGARAJAN SHRI S. M. KANNAN (<i>Alternate</i>)
Larsen and Toubro Komatsu, Bengaluru	SHRI SANJEEV WALVEKAR
BIS Directorate General	SHRI RAJIV RANJAN SINGH, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (PRODUCTION AND GENERAL ENGINEERING) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary
SHRI MONARCH JOSHI
SCIENTIST 'B'/ASSISTANT DIRECTOR
(PRODUCTION AND GENERAL ENGINEERING), BIS

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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